

# Ecology — Full Revision

Name:

Date:

**INQUIRY**

**Everything in an ecosystem is connected. This revision covers ecosystems, food webs, adaptations, human impact, and biodiversity — the full picture.**

Discuss with your partner. Write your initial ideas below:

## Key Vocabulary

Term	Definition
<b>Ecosystem</b>	Biotic + abiotic factors interacting.
<b>Food web</b>	Interconnected food chains.
<b>Adaptation</b>	Feature helping survival (structural/behavioural/functional).
<b>Biodiversity</b>	Variety of species in an ecosystem.

## Section 1 — Ecosystems (8 marks)

1. Define biotic and abiotic. Give 2 examples of each from Xuanwu Lake. [4 marks]
2. Order: individual, community, ecosystem, population, biome, biosphere. [2 marks]
3. Explain how the Korean DMZ became a thriving ecosystem without human management. [2 marks]

## Section 2 — Food Chains & Energy (10 marks)

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4. Construct a food chain with 4 organisms from the Yangtze River. Label producer and consumers. [3 marks]

5. A producer captures 80,000 kJ. Using the 10% rule, calculate energy at each trophic level up to the tertiary consumer. [3 marks]

Show your working:

6. A disease kills all the frogs in a pond. Predict the effects on (a) the insects frogs eat (b) the snakes that eat frogs (c) the algae. [4 marks]

## Section 3 — Adaptations (8 marks)

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7. Giant pandas have a pseudo-thumb, strong jaw muscles, and spend 14 hours/day eating. Classify each adaptation and explain how it helps survive on bamboo. [4 marks]

8. A camel and a polar bear are both mammals but live in very different habitats. Compare TWO adaptations of each and explain why they are suited to their environment. [4 marks]

## Section 4 — Human Impact & Biodiversity (9 marks)

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9. Name three human activities that reduce biodiversity. For each, explain the mechanism. [3 marks]
10. Compare ONE conservation success story from China and ONE from Germany. What strategy was used? How was success measured? [4 marks]
11. Explain why protecting biodiversity is important for human food security and medicine. [2 marks]